

IN THE CLAIMS:

Please cancel Claims 11-20, 23-26, 28 and 29 without prejudice or disclaimer of subject matter.

Please amend Claims 1-10, 21, 22 and 27 and add new Claims 30-35, to read as shown below. All of the claims now pending are set forth below.

1. (Currently Amended) An substrate structure electron source which is a precursor to an electron source, and on which an electron emitting device of the electron source is to be disposed, the substrate structure comprising:

a substrate; and

an insulating material layer provided on the substrate, wherein the insulating material layer has a plurality of partially exposed metal oxide particles on its surface; and

an electron-emitting material and an electrode connected with said electron-emitting material, wherein said electron-emitting material and said electrode are disposed on said insulating material layer.

2. (Currently Amended) An substrate structure electron source which is a precursor to an electron source, and on which an electron emitting device of the electron source is to be disposed, the substrate structure comprising:

a substrate; and

an insulating material layer provided on the substrate, wherein the insulating material layer has a plurality of partially exposed metal oxide particles on its surface and a plurality of enclosed metal oxide particles; and

an electron-emitting material and an electrode connected with said electron-emitting material, wherein said electron-emitting material and said electrode are disposed on said insulating material layer.

3. (Currently Amended) The substrate structure electron source according to Claim 2, wherein the plurality of enclosed metal oxide particles form a metal oxide particle layer in the insulating material layer.

4. (Currently Amended) The substrate structure electron source according to Claim 2, wherein the plurality of enclosed metal oxide particles and the plurality of partially exposed metal oxide particles form a metal oxide particle layer in the insulating material layer.

5. (Currently Amended) The substrate structure electron source according to ~~one of~~ Claim[s] 2 through 4, wherein the average particle size of the plurality of metal oxide particles partially exposed on the surface of the insulating material layer is larger than the average particle size of the plurality of metal oxide particles enclosed in the insulating material layer.

6. (Currently Amended) The substrate structure electron source according to ~~one of~~ Claim[s] 2 ~~through~~ 4, wherein the average particle size of the plurality of metal oxide particles partially exposed on the surface of the insulating material layer is in the range of 50 nm to 70 nm, and wherein the average particle size of the plurality of metal oxide particles enclosed in the insulating material layer is in the range of 6 nm to 40 nm.

7. (Currently Amended) The substrate structure electron source according to ~~one of~~ Claim[s] 2 ~~through~~ 4, wherein the average particle size of the plurality of metal oxide particles partially exposed on the surface of the insulating material layer is 60 nm, and wherein the average particle size of the plurality of metal oxide particles enclosed in the insulating material layer is in the range of 6 nm to 40 nm.

8. (Currently Amended) The substrate structure electron source according to ~~one of~~ Claims 1 and Claim 2, wherein the substrate is one containing sodium.

9. (Currently Amended) The substrate structure electron source according to ~~Claim 8~~ Claim 1 or 2, wherein the insulating material layer is a sodium blocking layer.

10. (Currently Amended) The substrate structure electron source according to ~~one of~~ Claims 1 and Claim 1 or 2, wherein the insulating material layer is an antistatic layer.

11. - 20. (Cancelled)

21. (Currently Amended) The ~~substrate structure~~ electron source according to ~~one of Claims 1, 2, 11 and 12~~ Claim 1 or 2, wherein the metal oxide particles are electron conductive oxide particles.

22. (Currently Amended) The ~~substrate structure~~ electron source according to ~~one of Claims 1, 2, 11 and 12~~ Claim 1 or 2, wherein the metal oxide particles are particles of an oxide of a metal selected from the following metals: Fe, Ni, Cu, Pd, Ir, In, Sn, Sb, and Re.

23. - 26. (Cancelled)

27. (Currently Amended) An image display apparatus comprising an envelope, an ~~electron-emitting device arranged in the envelope~~ electron source according to Claim 1 or 2, and an image display member adapted to display images through application of electrons from the ~~electron-emitting device~~, wherein a ~~substrate structure on which the electron-emitting device is arranged is a substrate structure as claimed in one of Claims 1, 2, 11 and 12~~ electron source, arranged in the envelope.

28. - 29. (Cancelled)

30. (New) A substrate structure which is a precursor to an electron source, and on which an electron-emitting device of the electron source is to be disposed, the substrate structure comprising:

a substrate; and

an insulating material layer provided on the substrate, wherein the insulating material layer has a plurality of partially exposed metal oxide particles on its surface and a plurality of enclosed metal oxide particles, wherein an average particle size of the plurality of metal oxide particles partially exposed on the surface of the insulating material layer is larger than an average particle size of the plurality of metal oxide particles enclosed in the insulating material layer.

31. (New) A substrate structure which is a precursor to an electron source, and on which an electron-emitting device of the electron source is to be disposed, the substrate structure comprising:

a substrate; and

an insulating material layer provided on the substrate, wherein the insulating material layer has a plurality of partially exposed metal oxide particles on its surface and a plurality of enclosed metal oxide particles, wherein an average particle size of the plurality of metal oxide particles partially exposed on the surface of the insulating material layer is in a range of 50 nm to 70 nm, and wherein an average particle size of the plurality of metal oxide particles enclosed in the insulating material layer is in a range of 6nm to 40nm.

32. (New) A substrate structure which is a precursor to an electron source, and on which an electron emitting device of the electron source is to be disposed, the substrate structure comprising:

a substrate; and
an insulating material layer provided on the substrate, wherein the insulating material layer has a plurality of partially exposed metal oxide particles on its surface and a plurality of enclosed metal oxide particles, wherein an average particle size of the plurality of metal oxide particles partially exposed on the surface of the insulating metal layer is 60 nm, and wherein an average particle size of the plurality of metal oxide particles enclosed in the insulating material layer is in a range of 6nm to 40nm.

33. (New) The electron source according to any one of Claims 1, 2, 30, 31 or 32, wherein said insulating material layer contains SiO_2 as a main ingredient.

34. (New) The electron source according to any one of Claims 30, 31 or 32, wherein the plurality of enclosed metal oxide particles form a metal oxide particle layer in the insulating material layer.

35. (New) The electron source according to any one of Claims 30, 31, or 32, wherein the plurality of enclosed metal oxide particles and the plurality of partially exposed metal oxide particles form a metal oxide particle layer in the insulating material layer.